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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,725	09/14/2000	Donald C D Chang	PD-200101	9196

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THE DIRECTV GROUP INC
PATENT DOCKET ADMINISTRATION RE/R11/A109
P O BOX 956
EL SEGUNDO, CA 90245-0956

EXAMINER	
TORRES, MARCOS L	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/661,725	CHANG ET AL.	
	Examiner	Art Unit	
	Marcos L. Torres	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *12-17* is/are allowed.

6)☒ Claim(s) *1-11,18 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2-15-2007 have been fully considered but they are not persuasive.

2. Regarding applicant argument that Gross does not disclose scaling (arranging) a plurality of elements to form a plurality of beams, Gross disclose that the payload antenna is a phased array antenna (see col. 4, line 47-54), the definition of phased array antenna is two or more active antenna –called elements—arranged (also called arrayed) so the electromagnetic fields effectively add in some direction and cancel in other directions[1]; thereby Gross does disclose the above limitation.

3. Regarding that Gross reference does not teach or suggest auxiliary elements, please see above the definition of a phase array antenna. Thereby, it is possible for Gross to teach said gateway station scaling the plurality of element to form a plurality of beam and auxiliary elements output (plurality of phase array antenna).

4. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

5. Regarding applicant argument directed to Hansen, those limitation are taught by Gross.

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[1] Newton's Telecom Dictionary, 20th edition March 2004

6. Regarding applicant argument that Mallinckrodt does not teach that the payload controller of a stratospheric platform comprises a demultiplexer, Mallinckrodt discloses the common and well known technique of multiplexing and de-multiplexing commonly used for managing the bandwidth in each side of the communication, please see below.

7. The rest of the arguments they fall together with the response above.

8. The current rejection in record stands.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1, 5, 9-11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross 6,507,739 in view of Hansen US005361074A .

As to claims 1, Gross discloses a communications system (see col. 1, lines 8-9) comprising: stratospheric platform having a payload controller (see col. 1, lines 9-11; col. 4, lines 52-54) and a phased array antenna having a plurality of main array antenna elements for generating a plurality of communication beams (see col. 4, lines 49-52); a gateway station in communication with said stratospheric platform (see col. 5, lines 10-12), said gateway station scaling the plurality of elements to form a plurality of beams and auxiliary element output, said gateway station communicating a control signal to the stratospheric platform to communicate a scaling of elements to form the communication beams and the auxiliary element output (see col. 5, lines 10-22).Gross do not specifically disclose a plurality of auxiliary elements for canceling interference from the side lobes of the plurality of the communication beam. In an analogous art, Hansen discloses a plurality of auxiliary elements for canceling interference from the side lobes of the plurality of the communication beam (see col. 1, lines 30-35). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine these teachings in order to have a better communication avoiding interference.

As to claim 5, Hansen discloses a system wherein said auxiliary element output is a function of a direction of the plurality of the communication beams (see col. 3, lines 1-43).

As to claim 9, Gross discloses a system wherein said ground station is coupled to a terrestrial network (see col. 5, lines 16-22).

As to claim 10, Gross discloses a system wherein said terrestrial network comprises the Internet (see col. 10, lines 13-22).

As to claim 11, Gross discloses a system wherein the terrestrial network comprises the public service telephone network (see col. 5, lines 39-44).

Regarding claim 18 is the corresponding method claims of system claim 1. Therefore, claim 18 is rejected for the same reason shown above.

13. Claims 2-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross in view of Hansen as applied to claims 1, 5, 9-11 and 18 above, and further in view of Mallinckrodt US005339330A.

As to claims 2 and 3, Gross and Hansen disclose everything claimed as explained above except for a communications system wherein the controller comprises a demultiplexer for receiving control signals. In an analogous art, Mallinckrodt discloses a communications system wherein the controller comprises a demultiplexer for receiving control signals (see col. 4, lines 29-42; col. 5, lines 40-58). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to use demultiplexer for recovering a multiplexed signal for the simple purpose of recovering the signal.

As to claim 4, Gross do not specifically disclose a system wherein the element control signals are coupled to an RF feed, the RF feed is coupled to elements of said phased array antenna. However, OFFICIAL NOTICE is taken that it is common and well-known technique to send control signal to an antenna. Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add this technique to the modified Gross system for an enhanced signal transmission and reception.

As to claims 7 and 8, Gross discloses everything claimed as explained above except for a system wherein said gateway station further comprises a code division multiplexer/demultiplexer. Mallinckrodt discloses a system wherein said gateway station further comprises a code division multiplexer and demultiplexer (see fig. 5, item 86; col. 3, lines 45-62; col. 5, lines 40-58).

14. Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross in view of Hansen as applied to claims 1 and 18 above, and further in view of Ide.

As to claims 6 and 19, Gross a system wherein the gateway station comprises a plurality of gates (see col. 5, lines 10-22). Gross do not specifically disclose each having a respective weight, said auxiliary element output being a function of said weight. Ide discloses wherein the gateway station comprises a plurality of multiplication gates each having a respective weight, said auxiliary element output being a function of said weight (see col. 3, line 12 – col. 4, line 59). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add these teachings to the modified Gross and Yeh system for a better signal transmission and reception.

Allowable Subject Matter

15. Claims 12-17 are allowed.

16. The following is a statement of reasons for the indication of allowable subject matter: see previous office action.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be mailed to:

U.S. Patent and Trademark Office
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

571-273-8300

for formal communication intended for entry, informal communication or draft communication; in the case of informal or draft communication, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcos L. Torres whose telephone number is 571-272-7926. The examiner can normally be reached on 8:00am-6:00 PM alt. Wednesday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-252-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcos L Torres
Examiner
Art Unit 2617

mlt

GEORGE ENG
SUPERVISORY PATENT EXAMINER